Ernie Fletcher
Governor

LaJuana S. Wilcher
Secretary
Environmental and Public
Protection Cabinet

Environmental Quality Commission
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September 9, 2004

The Honorable Ernie Fletcher
State Capitol
Frankfort, KY 40601

Dear Governor Fletcher:

The Environmental Quality Commission (EQC), a seven-member citizen board appointed by the Governor to advise the Governor and other state officials on environmental matters, is pleased to provide you with the attached recommendations concerning mercury. The recommendations are an outcome of an EQC public meeting held on May 17, 2004 and were passed unanimously at our August 18th meeting with the following commission members in attendance and voting: Lindell Ormsbee, Chair; Betsy Bennett, Vice-Chair, Patty Wallace, Eugene Zick, Gary Revlett and Laura Knoth. I have taken the liberty of sharing these recommendations with the Department for Environmental Protection prior to passing them on to you in order to solicit any concerns or technical comments.

In most chemical forms, mercury is a neurotoxin - this means it can cause damage to the brain and central nervous system. It also affects the kidneys and lungs. Methylmercury, one of the most toxic forms of mercury, is known to affect learning ability and neurodevelopment in children.

People are exposed to methylmercury almost entirely by eating contaminated fish. The National Research Council, in its 2000 report on the toxicological effects of methylmercury, pointed out that the population at highest risk is the offspring of women who consume large amounts of fish and seafood. The report went on to estimate that more than 60,000 children are born each year at risk for adverse neurodevelopmental effects due to in utero exposure to methylmercury.

The number and geographic extent of fish advisories because of mercury contamination has raised public awareness of the widespread nature of the mercury hazard. Fish consumption advisories for methylmercury now account for more than half of all fish consumption advisories in the United States. Forty-five states issued advisories for mercury on 222 water-bodies in 2003. Twenty-one of these states, including Kentucky, have issued statewide consumption advisories due to mercury in fish.

These attached recommendations seek to strengthen state efforts to protect public health and the environment from the hazards of mercury. They call for additional measures to reduce mercury risks through awareness, education and a targeted action strategy. We would welcome the opportunity to help make these recommendations a reality.

Please feel free to call Leslie Cole, Director of EQC, or me if you have any questions or wish to discuss these recommendations further. Thank you for your interest in this important matter and your continuing efforts to make Kentucky an environmentally healthy and vibrant Commonwealth.

Sincerely,

Lindell Ormsbee

Chair, Environmental Quality Commission

Cc: LaJuana Wilcher, Secretary, Environmental & Public Protection Cabinet
Dr. James Holsinger, Secretary, Health & Families Cabinet

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Environmental Quality Commission
Lindell Ormsbee, Chair, *Lexington*
Betsy Bennett, Vice-Chair, *Louisville*
Patty Wallace, *Louisa*
Gary Revlett, *Shelbyville*
Gordon Garner, *Prospect*
Eugene Zick, *Russellville*
Laura Knoth, *Grand Rivers*

Leslie Cole, *Executive Director*

KENTUCKY ENVIRONMENTAL QUALITY COMMISSION

Recommendations

MERCURY IN KENTUCKY:

A PUBLIC DIALOGUE OF ISSUES AND NEEDS

Based on the findings of the May 17, 2004 EQC Public Meeting

1. **Inform and Educate Public on the Risks of Mercury in Fish**

   For most people, the risk from mercury by eating fish and shellfish is not a health concern. Yet, some fish and shellfish contain higher levels of mercury that may harm an unborn baby or young child's developing nervous system. The risks from mercury in fish and shellfish depend on the amount of fish and shellfish eaten and the levels of mercury in the fish and shellfish. Therefore, the U.S. Environmental Protection Agency (EPA) is advising women who are or may become pregnant, nursing mothers, and young children to avoid some types of fish and to eat fish and shellfish that are lower in mercury. According to the Centers for Disease Control, about 5 percent of women of childbearing age in the U.S. have levels of mercury in their blood at or exceeding the safety level for fetal exposure. An additional 5 percent were just below the threshold. The National Research Council issued a report estimating that as many as 60,000 U.S. newborns a year are now at risk for adverse neurodevelopmental effects from dietary mercury.

   RECOMMENDATION

   The state has made some progress in informing the public about fish consumption advisories but much more is needed to target vulnerable populations. EQC recommends that a **statewide fish consumption public information and awareness campaign** be developed in cooperation with Kentucky Cabinet for Health, the Environmental and Public Protection Cabinet and the Department of Fish and Wildlife Resources to target high-risk populations (children, childbearing age women, subsidence fishers) and areas (marinas, bait shops, supermarkets, fishing license vendors, medical offices, physicians, pediatricians, hospitals, pharmacies, health departments, extension agents, supermarkets and public libraries) to provide information about the hazards of mercury in fish.

2. **Target Additional Outreach Efforts at High Risk Areas**

   The Kentucky Division of Water has been analyzing fish tissue data for mercury since 1995. During the past 8 years, the Division of Water has assessed 157 samples from 27 lakes and 126 samples from 48 streams and rivers for mercury. Of the 27 lakes sampled, 66 percent (18 lakes) had median fish methylmercury concentrations greater than the risk-based state and EPA risk level of 0.12 parts per million (ppm), or a level of one meal per week. Thirty percent (8 lakes), including Lake Cumberland, had maximum levels above the EPA's recommended water quality criterion of 0.3 ppm, or a level of 2-3 meals per month.

RECOMMENDATION

- **Target additional fish consumption education and awareness efforts at high-risk lakes** and streams based on fish tissue mercury concentrations and locations likely to have the greatest number of subsistence and recreational fisherman – Post signs, provide information.
- The EPPC commit to including **public outreach about the risks of mercury in its** Total Maximum Daily Load (TMDL) **implementation plans**.

3. Strengthen Testing and Analysis of Mercury in the Environment

It is not financially feasible to sample every waterbody for mercury levels in fish tissue. Currently, the Kentucky Division of Water focuses its sampling at 33 sites, 15 of which are permanent stations that are resampled every 5 years and another 15 sites that are selected annually. In addition eight sites are sampled annually due to current fish consumption advisories or investigations of possible advisories. In a 5-year basin cycle this equates to approximately 150 sites and 700 composite samples.

RECOMMENDATIONS

- EQC recommends the state **increase the number of waterbodies sampled each year for mercury** specifically in fish and wildlife lakes and other major fishery resources in the state.
- EQC supports the development of a **fish tissue database** to include historical and recent data in order to facilitate data review and fish consumption advisory determinations.
- EQC recommends that the Kentucky Division for Air Quality and the Kentucky Division of Water **initiate a comprehensive rainwater-testing program for mercury** and work to correlate air and rainwater sampling with fish tissue and bioaccumulation data.
- EQC recommends that the Kentucky Department for Environmental Protection **identify sources of mercury**, outline the existing **regulatory structure** around mercury and existing mercury **reduction efforts** and identify possible **strategies for further mercury reduction**.

4. Strengthen Environmental Health Surveillance

According to the University of Louisville Birth Defects Center, nearly 1 of every 4 infant deaths in Kentucky are caused by congenital anomalies, which is one of the highest rates in the nation. Exposure to certain toxic pollutants have been linked to birth defects. Environmental contaminants such as mercury has been proven to cause brain and nervous system damage ranging from cerebral palsy to learning disorders in infants when their mothers were exposed to it during pregnancy. Kentucky's birth defect registry has collecting data since 1996. Kentucky's program, however, does not conduct epidemiological (prevention) research or studies to assess potential links between environmental exposures and birth defects. Kentucky also does not track developmental and learning disabilities such as cerebral palsy, autism and mental retardation. The National Academy of Sciences estimates that in the United States 25 percent of these disabilities in children are caused by environmental factors.

RECOMMENDATIONS

- Recommend the **development of capabilities within the Kentucky Department of Health Services to conduct epidemiological studies** to assess potential links between environmental exposures and birth defects.
- Support the **expansion of the Kentucky birth defects surveillance program** to collect data on developmental and learning disabilities.

5. Reduce Persistent, bioaccumulative toxic (PBT) chemicals.

PBTs such as mercury, dioxin and PCBs, are some of the most dangerous substances ever produced or released as a result of human activities. PBTs are long-lasting pollutants that are notable for their ability to be transported long distances by air or water, remain static for long periods of time in soil until disturbed, to move and partition among environmental media, and to bioaccumulate in

aquatic and/or terrestrial organisms. They are particularly troublesome due to their high toxicity may interfere with human endocrine systems, cause reproductive and developmental problems, impair the immune system, and cause cancer. Fetuses and children are at particularly high risk from PBT exposure because their rapidly developing systems can be affected by very small amounts of these substances. The symptoms of impaired development or toxicity may not be immediate; and dramatic health effects may show up in subsequent generations.

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Recommendation

The Kentucky Department for Environmental Protection assess priority Persistent, Bioaccumulative, and Toxic pollutants (PBT) to be present and/or released to the environment in Kentucky and develop an action plan to reduce the risks posed to public health and the environment to include the following:

- **Screen Toxic Pollutants** – Identify and prioritize PBTs in Kentucky.
- **Encourage Reductions** – Build partnerships to reduce and eliminate PBTs and track progress.
- **Monitor** – Establish a PBT baseline monitoring program.


Chair, Environmental Quality Commission

August 18, 2004

Environmental Quality Commission
Unanimous approval of those present and voting:
Lindell Ormsbee, Chair
Betsy Bennett, Vice-Chair
Gary Revlett
Patty Wallace
Eugene Zick
Laura Knoth